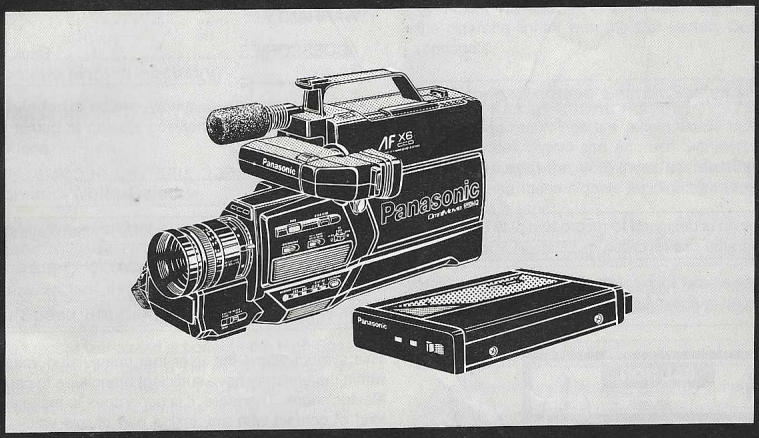
Operating Instructions

Panasonic
OmniMovie VHS

PV-400

Consists of PV-400D/PV-A22MC



VHS OmniMovie

Before attempting to connect, operate or adjust this product, please read these instructions completely.

VQT5J593 Ⓐ

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INTRODUCTION

Your movie is designed to help you make video recordings even if you have never used a movie camera before. This means that, except for making a selection or two, all of the recording conditions will be taken care of automatically. With this manual you will find it easy to become familiar with your movie and enjoy it under a wide range of recording conditions.

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WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION:
TO PREVENT FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

Your movie is designed to record and play back in SP mode only. Your movie will not perform normal playback for programs pre-recorded in LP or SLP mode.

Only use those tapes with the VHS mark. It is recommended that only cassette tapes that have been tested and inspected for use in 2, 4, 6, and 8 hour VCR machines be used.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

Your new Panasonic movie is a compact, light weight unit. Actually a combination of VHS Video Camera, Recorder and Player. Your movie can operate steadily for up to 2 hours 40 min. using NV-T160 tape.

HQ (High Quality) System

This movie is equipped with the HQ System to provide excellent video pictures, and is compatible with existing VHS standard equipment.

CCD Image Sensor

The CCD (Charge Coupled Device) image sensor is a durable, vibration resistant chip which improves your color image and conveniently needs no warm up time.

Record Review Page 16

While in record/pause mode you may use the Electronic View Finder (EVF) and the Record Review feature to check the last few seconds of tape just recorded.

Power Zoom and Macro Function Page 15

The smooth power zoom will bring the subject up to 6 times closer, or with the Macro function you can move into the miniature, right up to 1 inch from the lens.

Automatic/Manual Focusing Page 15

The Auto focus system works via an infrared light beam aimed at objects positioned before the center of the lens.

Automatic White Balance

Automatic indoor/outdoor light compensation and the Automatic White Balance will continuously adjust for the optimum color balance.

High Speed Shutter Page 15

You can record fast-paced action with the High Speed Shutter Switch ON. Later a still mode playback (or slow mode with a Panasonic TECH 3 or TECH 4 VCR) will reveal the fine points of any motion at 1/1000th or 1/500th of a second, with no blurred screen image.

Record A TV Program Page 18

The movie enables you to record a TV program through the AC Adaptor assembly if the TV has VIDEO OUT & AUDIO OUT Terminals.

Playback Video Page 10

Immediately view your recordings in the Electronic View Finder (EVF) using any of the special effect playback functions.

Indicators On Electronic Viewfinder

The easily adjustable viewfinder has a 2/3 inch black and white TV screen showing the exact camera lens view under every condition. The EVF display indicators show operation and warning functions.

3 Way Power Supply Pages 8, 11

You can move your video production anywhere using one of the three available power supplies.
INDOORS – The AC Adaptor allows you to plug-in the movie, or charge batteries, or hook up to a monitor or regular TV.
OUTDOORS – With the Battery Pack connected to your movie you have approximately 1 hour (2 hours using the optional PV-BP88 Battery Pack) of continuous use.
IN YOUR VEHICLE – The movie simply plugs into the cigarette lighter with the Car Battery Cord (optional).

VHS Index/Address Search Systems

Your movie recordings are automatically indexed with an Index Signal and Address Signals on the tape. VCRs with the VHS Index/Address Search Systems use these signals for direct location of scenes on a tape.

Self Timer Recording

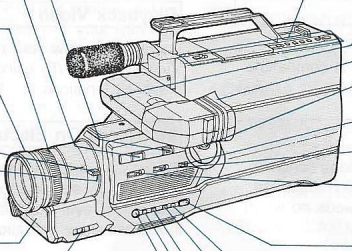
This feature allows you to be part of the scene, by setting a 10 sec delay before recording actually starts.

Time Lapse Recording

1 second in every minute of slow movement is recorded.

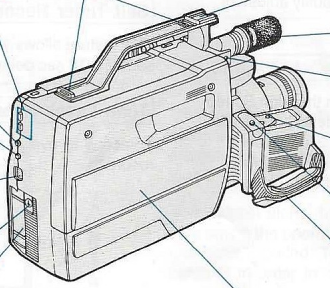
DESCRIPTION OF CONTROLS

FRONT VIEW



- BACKLIGHT BUTTON
- FADE BUTTON
- LENS FOCUS RING
- LENS HOOD
- ZOOM LEVER
- MACRO BUTTON (ON ZOOM LEVER)
- DISTANCE DETECTION WINDOW
- FOCUS SWITCH (WITH PUSH-TO-FOCUS BUTTON)
- FUNCTION CONTROL PANEL (P.5)
- TALLY LIGHT
- ELECTRONIC VIEWFINDER (EVF)
- EVF CONNECTOR
- WHITE BALANCE SWITCH
- SELF TIMER SWITCH
- HIGH SPEED SHUTTER SWITCH
- RECORD REVIEW BUTTON
- RESET BUTTON
- COUNTER DISPLAY/ MEMORY/LAP TIME (D/M/L) BUTTON
- SET BUTTON
- SELECT BUTTON
- DATE BUTTON

REAR VIEW



- STRAP ATTACHMENT RINGS
- TRACKING CONTROL
- REMOTE JACK
- EARPHONE JACK
- ADAPTOR CONNECTOR
- BATTERY EJECT BUTTON
- BATTERY COMPARTMENT
- ACCESSORY MOUNT
- BUILT-IN MICROPHONE
- EXTERNAL MICROPHONE JACK
- POWER ZOOM SWITCH
- RECORD/PAUSE BUTTON
- HAND STRAP
- CASSETTE COMPARTMENT

FRONT VIEW

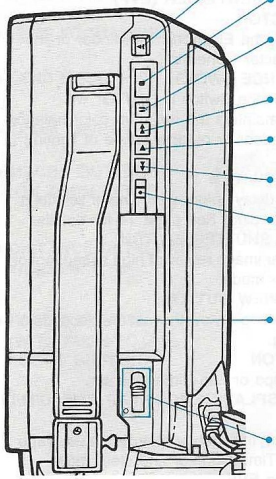
- **BACKLIGHT BUTTON**
  Press this button while recording your subject and the lens opening will automatically compensate for high contrast lighting conditions.
- **FADE BUTTON**
  When this button is pressed, the picture in the viewfinder and on the tape will fade out. When the button is released, the picture will automatically fade in.
- **LENS FOCUS RING**
  Rotate this ring to focus the picture manually.
- **LENS HOOD**
  Shields camera lens and accepts lens cap. Remove this hood to attach optic filters.
- **ZOOM LEVER**
  Use this lever to zoom in and out on your subject.
- **MACRO BUTTON (ON ZOOM LEVER)**
  Used to unlock the Zoom Lever so it moves into the far left Macro position to get close-up images.
- **DISTANCE DETECTION WINDOW**
  This window is used to detect subject-to-camera distance for Auto Focus.
- **FOCUS SWITCH (WITH PUSH-TO-FOCUS BUTTON)**
  Use the "AUTO" position for constant auto focus. In the "MANUAL" position the focus remains fixed until you manually adjust the Focus Ring, or use the Push-To-Focus Button.
- **TALLY LIGHT**
  The red tally light alerts those being recorded that recording is in progress.
- **ELECTRONIC VIEWFINDER (EVF)**
- **EVF CONNECTOR**
  For connecting the Electronic Viewfinder or the optional Character Generator.
- **WHITE BALANCE SWITCH**
  The White Balance Switch in "AUTO" will automatically maintain the optimum color balance in either the indoor or outdoor range of lighting conditions.
- **SELF TIMER SWITCH**
  Selects a time delay before recording or selects a time lapse recording. See page 14 for details.
- **HIGH SPEED SHUTTER SWITCH**
  Used for a clear image replay of high speed motion in Still or Slow mode.
- **RECORD REVIEW BUTTON**
  Press this button to review the last few seconds of your recording.
- **RESET BUTTON**
  Resets the Tape or Lap Time Counter.
- **COUNTER DISPLAY/MEMORY/LAP TIME (D/M/L) BUTTON**
  Used to display the battery charge status, Tape Counter, Lap Time Counter and clear these displays on the EVF.
- **SET BUTTON**
  Used to set the date in clock mode.
- **SELECT BUTTON**
  Used to select the date in clock mode.
- **DATE BUTTON**
  Used to display the date.

REAR VIEW

- **STRAP ATTACHMENT RINGS**
- **TRACKING CONTROL**
  If visual interference appears in the playback picture, use this control to obtain the clearest picture.
- **REMOTE JACK**
  Connect the optional Wired Remote Control here.
- **EARPHONE JACK**
  The optional earphone plugs in here to monitor the sound being recorded or played back.
- **ADAPTOR CONNECTOR**
- **BATTERY EJECT BUTTON**
  To eject the Battery Pack.
- **BATTERY COMPARTMENT**
  Insert a Battery Pack, the optional Plug-In AC Adaptor or the optional Car Battery Cord to use as the power supply.
- **ACCESSORY MOUNT**
  Convenient mounting for the optional Character Generator or lights.
- **BUILT-IN MICROPHONE**
- **EXTERNAL MICROPHONE JACK**
  To connect an external microphone. The built-in microphone is automatically disconnected when an external microphone is plugged in.
- **POWER ZOOM SWITCH**
  Used to "zoom-in" with Telephoto ("T") or "zoom-out" with Wide Angle ("W").
- **RECORD/PAUSE BUTTON**
  Used to start or pause camera recording.
- **HAND STRAP**
  This strap can be adjusted to the size of your hand.
- **CASSETTE COMPARTMENT**

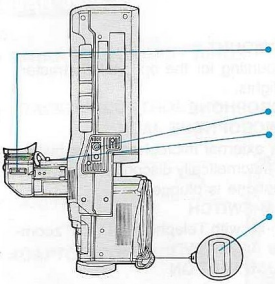
DESCRIPTION OF CONTROLS (CONTINUED)

FUNCTION CONTROL PANEL



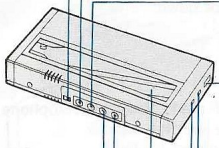
- **EJECT BUTTON**
  Press this button to insert or to remove a cassette.
- **STOP BUTTON**
- **PAUSE/STILL BUTTON**
  Use this button to pause in Play or VCR Recording mode.
- **FAST FORWARD/SEARCH BUTTON**
- **PLAY BUTTON**
- **REWIND/SEARCH BUTTON**
- **RECORD BUTTON**
  Use to record TV programs through the AC Adaptor Video-in and Audio-in terminals. Press the RECORD and PLAY buttons simultaneously on your movie. See page 18 for details.
- **VCR/CAMERA SELECTOR DOOR**
  VCR MODE: Slide this door completely to "VCR" to automatically select VCR and Stop mode.
  CAMERA MODE: Slide this door completely to "CAMERA" to activate Camera and Record/Pause mode.
- **POWER SWITCH AND INDICATOR**

UNDERSIDE



- **EVF VISION ADJUSTMENT LEVER**
  Adjust to your eyesight to assure good focus. Be sure to adjust when shooting for the first time or after another person has used your movie.
- **TRIPOD MOUNTING HOLE**
- **BRIGHTNESS CONTROL**
  This control adjusts the brightness of the viewfinder picture. If the picture is too dark or too bright, adjust this control to accommodate for surrounding light conditions.
- **LENS CAP**
  Can be attached to hand grip with built-in clip.

AC ADAPTOR



CHANNEL 3/4 SWITCH
Set to channel 3 or 4, whichever is not used for TV broadcast in your area, or provides the best picture during playback.

VIDEO OUTPUT CONNECTOR
For connection to a video input connector on a monitor TV or VCR.

AUDIO OUTPUT CONNECTOR
For connection to an audio input connector on a monitor TV, VCR, or an audio tape recorder.

INPUT SIGNAL SELECTOR

IN VCR MODE:

Position–	CAMERA	LINE
Video signal–	No display	Video-In
Audio signal–	Microphone	Audio-In

IN CAMERA MODE: Your movie normally operates with video from the camera and audio from the microphone, regardless of selector position.

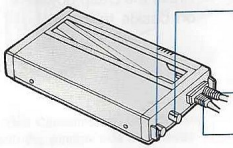
CHARGING INDICATOR LAMP
Lights while the Battery Pack is charging. After charging, this light will go off.

POWER INDICATOR LAMP
This indicator lights up when the AC Power Plug of the AC Adaptor is connected to an AC outlet.

BATTERY CHARGING COMPARTMENT
For charging a Battery Pack.

AUDIO INPUT CONNECTOR
For connection from an audio output connector on another VCR, TV, or other Audio Source.

VIDEO INPUT CONNECTOR
For connection from a video output connector on another VCR, or TV, to record a TV program.



VHF ANTENNA INPUT TERMINAL
Connect the VHF antenna or cable TV cable to this terminal.

VHF ANTENNA OUTPUT TERMINAL
Connect this terminal to the VHF antenna terminal on the TV using the supplied VHF Connecting Cable.

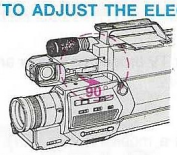
ADAPTOR CABLE

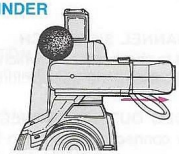
AC POWER CORD

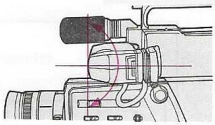
CAUTION: Operating at a voltage setting of 110/120/220/240V AC may require the use of a different AC plug. Please contact either a local or foreign electrical parts distributor for assistance in selecting an alternate AC plug. We recommend using the accessory Power Plug Adaptor (VJSS0070) in an area which has special AC outlets.

ADJUSTMENTS FOR EASY HANDLING

HOW TO ADJUST THE ELECTRONIC VIEWFINDER







1. The Electronic Viewfinder will slide forward on its mount and swing to the left to lock into a right-angled viewing position.

2. In the locked position you may extend or contract the EVF for comfortable left or right eye viewing.

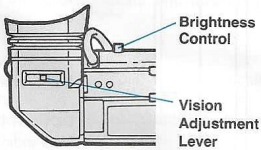
3. The eyepiece may be tilted 180° up or down.

You can remove the EVF by sliding it completely forward. Then press the recessed spring plate on the underside of the EVF and pull it completely off the mount.

To store

- In the locked viewing position extend the EVF out to clear the Microphone Mount. Then swing the EVF forward in line with the handle.
- Then, fully contract the EVF back to its compact position.

VISION ADJUSTMENT LEVER

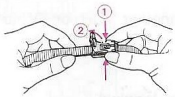


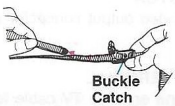
1. When Power is ON, make contact with the EVF eyepiece.

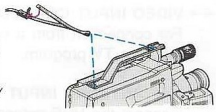
2. Locate the lever on the underside of eyepiece and slide it back and forth to get a clear, focused EVF screen display.

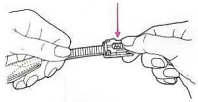
3. BRIGHTNESS CONTROL is provided for suitable viewing in EVF.

TO USE THE SHOULDER STRAP









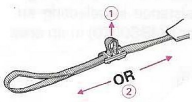
1. Pinch the tabs together on either side of clasp while raising it up to expose the buckle's catch.

2. Unhook strap from buckle catch.

3. Thread the shoulder strap through the Strap Attachment Ring on the movie. Then re-hook it onto the buckle catch.

4. Press the clasp down on buckle to lock.

HOW TO ADJUST THE LENGTH OF SHOULDER STRAP

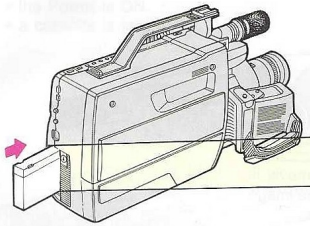


Pull a loop of the strap loose from its buckle, and then pull the strap firmly through the buckle to adjust its length.

TO INSERT OR REMOVE A BATTERY

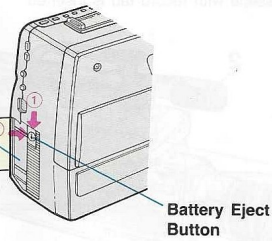
Be sure to fully charge the Battery Pack before operation.

Insert Battery Pack



■ Insert the Battery Pack into the Battery Compartment.

Remove Battery Pack

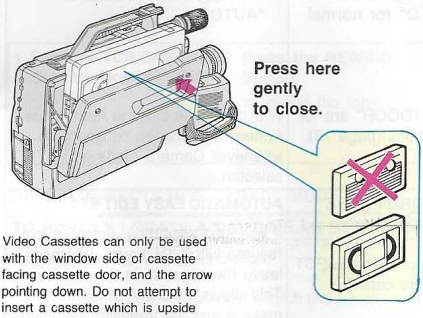


■ Press in and down to release the safety, then press in further to eject the Battery Pack.
- Be sure that the POWER Switch is set to "OFF" before ejecting Battery Pack.

TO INSERT OR REMOVE A CASSETTE

The movie may be ON or OFF when you insert or remove a cassette.

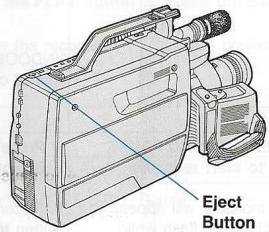
Insert Cassette



Video Cassettes can only be used with the window side of cassette facing cassette door, and the arrow pointing down. Do not attempt to insert a cassette which is upside down or backwards.

1. Press EJECT Button to open door.
2. Insert cassette and close cassette door.

Remove Cassette



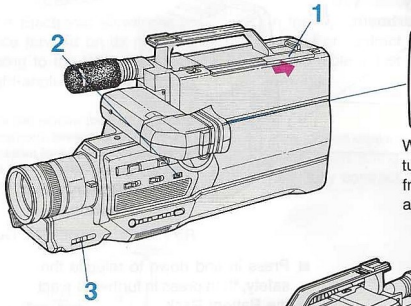
1. Press EJECT Button.
2. Remove a cassette and close cassette door.

CAMERA RECORDING

Try the simple trial here to become familiar with the operation of your movie.

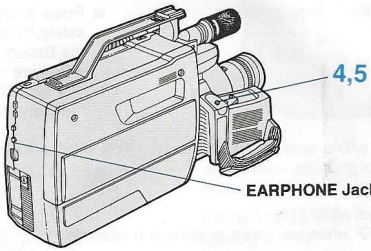
MAKE SURE THAT ...

- your movie is connected to a power source (Battery Pack, AC Adaptor, or Car Battery Cord).
- the Power is ON.
- a cassette with record tab is inserted.



EVF

When your movie is turned on, the image from the lens appears.



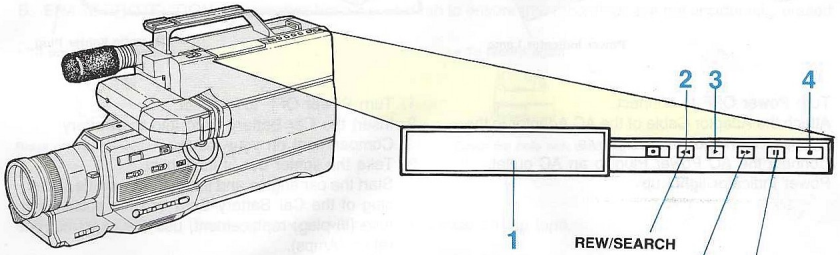
EARPHONE Jack – Connect the optional earphone to the earphone jack for monitoring the sound track as it is being recorded or played back.

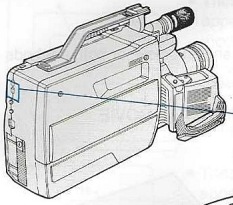
1 **Slide the VCR/CAMERA Selector Door to CAMERA.**	2 **Set the WHITE BALANCE Switch to "AUTO" for normal lighting.** "INDOOR" or "OUTDOOR" are for special color conditions (page 13).	3 **Set the FOCUS Switch to "AUTO".** With the power ON, the Auto Focus system will function continuously whenever Camera mode is selected.
4 **Press the RECORD/PAUSE Button to start recording.** The REC Indicator will appear and the Tally Light will flash while recording is in progress. Index/Address marks will be placed on the tape automatically.	5 **Press the RECORD/PAUSE Button again to pause.** In Record/Pause, press the EJECT Button to remove the cassette.	**AUTOMATIC EASY EDIT STANDBY** If you stop recording, but plan to resume within 24 hours, you can leave the cassette in the movie. This allows the Easy Edit feature to make a smooth transition between one scene and the next.

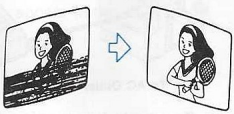
You can play back your movie recordings immediately on the Viewfinder by following the steps given below. You may also play back your movie recordings directly to a monitor or TV.

MAKE SURE THAT ...

- your movie is connected to a power source (Battery Pack, AC Adaptor, or Car Battery Cord).
- the Power is ON.
- a cassette is inserted.







If noise appears in the picture when playing back a pre-recorded tape or taped sections recorded on other machines, adjust this control to move the noise out of the picture. The normal position is automatically reset when both controls are pressed together or a cassette tape is inserted.

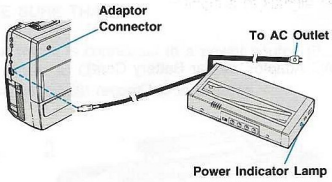
1 Slide the VCR/CAMERA Selector Door to VCR.	2 Press the REWIND Button to rewind the tape.	3 Press the PLAY Button to view the recorded picture.	4 Press the STOP Button to stop playback.

SPECIAL EFFECTS IN PLAYBACK MODE (SOUND IS MUTED)

TO RAPIDLY LOCATE A PARTICULAR SEGMENT	TO VIEW A STILL PICTURE
• Hold down the SEARCH Button. A rapid forward or reverse visual search picture appears while holding down the button. SEARCH SPEED SP Search is about 3 times normal speed	• Press the PAUSE/STILL Button. A freeze frame picture of the playback image appears. • Press the button once more. This releases the still and playback continues.

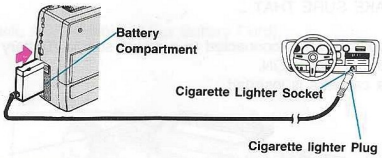
POWER SUPPLY

A. AC ADAPTOR (SUPPLIED)



1. Turn Power OFF to connect.
2. Attach the Adaptor Cable of the AC Adaptor to the Adaptor Connector of your movie.
3. Connect the AC Power Plug to an AC outlet. Power Indicator lights up.

B. CAR BATTERY CORD (OPTIONAL)

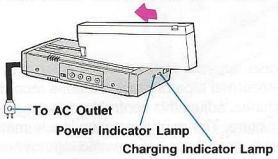


1. Turn Power OFF to connect.
2. Insert the Car Battery Cord into the Battery Compartment on your movie.
3. Take the lighter out of its socket.
4. Start the car engine and insert the cigarette lighter plug of the Car Battery Cord into the socket. For fuse (in plug) replacement, use the exact current rating (Amps).

HOW TO CHARGE A BATTERY PACK

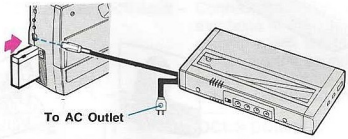
Your AC Adaptor can be used to charge one Battery Pack in either of the two ways shown below, or both methods can be used together to charge two Battery Packs at the same time.

CHARGING DIRECTLY ON THE AC ADAPTOR



1. Connect the AC Power Plug of the AC Adaptor to an AC outlet. Power Indicator lights up.
2. Place the Battery Pack in the AC Adaptor as illustrated here.

CHARGING DIRECTLY IN THE MOVIE



1. Be sure to turn your movie OFF. Battery Charging will not take place if your movie is ON.
2. Attach the Adaptor Cable of the AC Adaptor to Adaptor Connector of your movie.
3. Connect the AC Power Plug of the AC Adaptor to an AC outlet. Power Indicator lights up.
4. Insert the Battery Pack as illustrated above.

- The Charging Indicator will light during charging. When charging is finished, the Charging Indicator light will go out.
- A Battery Pack should charge in about 1 hour and 20 minutes (1 hour and 50 minutes using PV-BP88 Battery Pack).
- If you charge two Battery Packs at the same time, they should charge together in about 2 hours and 40 minutes (3 hours and 40 minutes using PV-BP88 Battery Pack).

A WORD ABOUT CASSETTES

A. TYPES OF VIDEO CASSETTE – Use types with the VHS mark in this unit.

Tape Speed	Maximum Record/Playback Time		
	T160	T120	T60
SP (Standard Play)	2 Hours 40 Minutes	2 Hours	1 Hour

B. ERASE PROTECTION – Cassettes have a record tab to ensure that recordings are not accidentally erased.

• To prevent accidental erasure

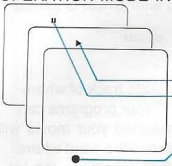
Break off the tab with a screwdriver

• To record again

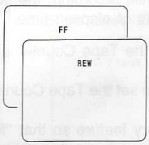
Cover the hole with cellophane tape

EVF INDICATIONS – These indications will not be recorded on the tape.

OPERATION MODE INDICATION

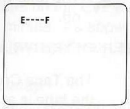


• These indications will appear in Camera/VCR mode.



• These indications will appear in the VCR mode.

BATTERY REMAINING INDICATION



• When the Battery Pack is fully charged, "E – – – – F" appears.

• As battery charge is consumed, the indicator changes: "E – – – F", "E – – F", "E – F".

• "E – F" will flash for several minutes and then "BATTERY" will flash for several seconds prior to automatic power shut off. When this happens, a battery recharge is necessary.

TAPE WARNING INDICATION

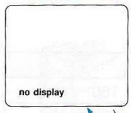
• If the record tab is missing, this indicator will flash and no recording will start.

DEW INDICATION

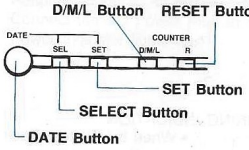
• If excessive moisture condenses in the unit, it will not operate. This indicator will flash for several seconds and the movie will automatically turn OFF. In this case, wait until the indicator no longer flashes when your movie is turned on again.

USEFUL FEATURES

DATE DISPLAY —— Your movie is capable of superimposing the date on the picture.



Press DATE Button



TO DISPLAY OR RECORD THE DATE

Turn your movie ON. Press the DATE Button while looking into the EVF. This toggles the Date display on the EVF screen. When the date appears on the EVF during recording it will be recorded as an overlay.

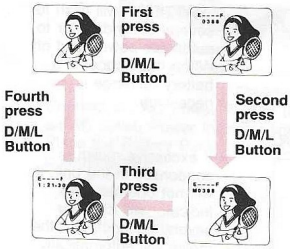
TO SET THE DATE

The date display may be set in Record/Pause or Stop mode and then recorded as an overlay in a recording when the display is on.

1. Press the DATE Button. "JAN. 1 1988" appears.
2. Press the SELECT Button. "JAN." flashes.
3. Press and hold the SET Button down. The months will scroll by. Release the button when the desired month is displayed.
4. Press SELECT again, "1" will flash. Set the day numeral using the SET Button as in step 3.
5. Press SELECT to select the year. "1988" flashes. Set the year numeral using the SET Button as in step 3.
6. When all changes have been made, press the SELECT Button again to lock in the new date.

- If the SET Button is quickly tapped, the digits will change one by one.
- The date will stay in the memory for about 4 hours after power is turned off.

TAPE COUNTER "0000"/COUNTER MEMORY/LAP TIME COUNTER "0:00.0"

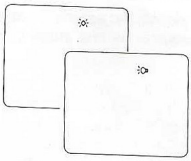


The Tape Counter and Lap Time Counter keeps accurate track of where the tape is at all times so the beginning and ending of your programs can be easily located. When the Memory function is selected your movie will stop during Rewind or Fast Forward whenever it reaches the point where the tape counter was previously set to "0000". While recording, the lap time will show you the hours, minutes and seconds of elapsed time.

1 (a) Press the COUNTER D/M/L Button so that the Tape Counter and Battery indication appear.
(b) Press the RESET Button at desired location to set the Tape Counter to "0000".
2 Press the D/M/L Button again to use the Memory feature so that "M" appears with the current Tape Counter display. Memory is only selected when "M" appears.
3 Press the D/M/L Button again during recording to display elapsed recording time.

- The record lap time counter only functions in REC mode.

AUTO WHITE BALANCE

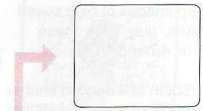


With the WHITE BALANCE Switch, select "AUTO" for continuous color balance in both indoor and outdoor lighting situations. Under the following conditions set the WHITE BALANCE Switch to "☼" or "💡" as recommended, for better color reproduction.

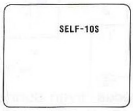
OUTDOOR "☼": When recording an outdoor scene from indoors, or recording an outside scene using an amber filter.

INDOOR "💡": When recording an indoor scene from outside, or an inside scene using a blue filter.

SELF TIMER/TIME LAPSE RECORDING

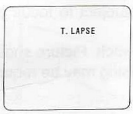


In the RECORD/PAUSE mode slide SELF TIMER Switch once



Slide twice

Slide three times



Slide four times

The SELF TIMER Switch slides to the right to select one of three recording overlays. Pressing the RECORD/PAUSE Button activates the selected mode. When recording stops the movie will return to Record/Pause mode.

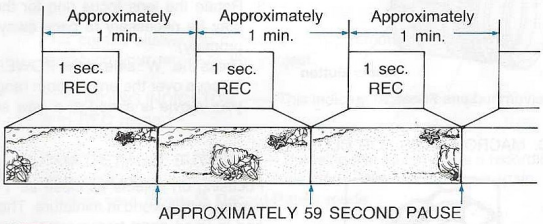
SELF-TIMER RECORDING
Both "SELF-10S" and "SELF-END" begin with a 10 second delay before recording starts. This will allow the one who starts the recording to be part of the action in the scene.

The "SELF-10S" overlay
Indicates that a 10 second scene will begin 10 seconds after you start the recording. Pressing the RECORD/PAUSE Button will cancel the recording in progress.

The "SELF-END" overlay
Indicates that a continuous recording to the end of the tape will begin 10 seconds after you press the RECORD/PAUSE Button. Press RECORD/PAUSE Button again to cancel the recording in progress.

TIME LAPSE RECORDING
When "T.LAPSE" appears on the EVF a one second frame of the scene will be recorded each minute. As shown in the diagram below, your recording will have continuous Time Lapse images of the scene.

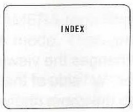
The "TIME LAPSE" overlay
Indicates that a time lapse recording will begin immediately when you press the RECORD/PAUSE Button. Pressing the RECORD/PAUSE Button again will cancel the recording in progress.



NOTE:
This camera is not designed for industrial use, the Time Lapse Feature. Please keep the following points in mind.

- Avoid using the unit solely for Time Lapse recording. Ten hours of time lapse recording is the maximum capability of the unit. After this period, the unit will automatically turn itself off.
- The battery pack is not designed for continuous Time Lapse use. For extended periods of time lapse recording it is recommended that an alternate power source be used.

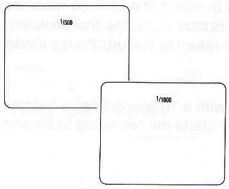
VHS Index/Address Search Systems



An index mark is automatically placed on the tape at the beginning of each recording (INDEX Indicator will appear), but not where a recording resumes after being put into pause. Address marks are automatically placed along the whole length of a recording in one minute intervals, continuing in sequence after pause. You can enjoy automatic review and play back using VCR models which feature VHS Index/Address Search Systems.

USEFUL FEATURES (CONTINUED)

HIGH SPEED SHUTTER SWITCH

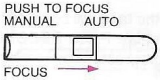


This Switch allows the movie to record clear, sharp images of high speed motion. For fine point replay without trails or blurs, play back these recordings in Still mode or Slow mode on a 3 or 4 head VCR.

While recording, slide the switch right to select 1/500th of a second shutter speed. Slide it right to the second position for 1/1000th of a second shutter speed. Extremely fast moving objects should be recorded at the fastest speed (1/1000th). Use the other speed (1/500th) to record objects that occasionally accelerate fast enough to cause blurs during special effects playback.

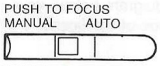
FOCUS

A. AUTO FOCUS

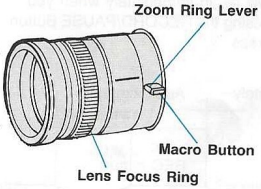


"AUTO"- Use this position for constant auto focus, even during a zoom. "MANUAL"- In this position the focus remains fixed until you press and hold the PUSH-TO-FOCUS Button, then the picture will automatically focus on the subject in the center of the EVF (Electronic Viewfinder).

B. FOCUSING BY HAND

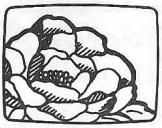


Set the FOCUS Switch to "MANUAL" when you want to adjust the focus by hand using the lens Focus Ring. The steps below explain how to manually adjust the focus for a Zoom.



1. Aim your movie at the scene to be recorded.
2. Press and hold "T" side of the POWER ZOOM Switch until the lens zooms to maximum close-up setting.
3. Rotate the lens focus ring for the sharpest picture at this setting. (It may be necessary to back away from the subject to focus image properly).
4. Press the "W" side of the POWER ZOOM Switch. Picture should stay in focus over the entire zoom range. Re-focusing may be required when your movie is aimed at a new scene.

C. MACRO FOCUS FOR CLOSE-UP



Focusing on objects as close as 1 inch from the lens lets you fill your screen with a world in miniature. The Macro function is for close-up images and is used apart from normal camera recording.

1. Set the FOCUS Switch to "MANUAL".
2. Turn the Zoom Ring Lever to the extreme left position.
3. Press the MACRO (green) Button on the Zoom Ring Lever and use the Zoom Ring Lever for Macro Focusing.

- When using the Macro function, it may be helpful to steady your movie by mounting it on a tripod.

ZOOM

Zoom Out (Wide Angle) W

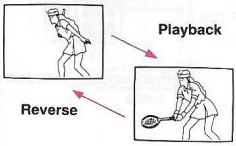
Zoom In (Telephoto) T

Your movie has a power zoom lens that gently changes the viewing angle. Zooming is possible by lightly pressing the "T" or "W" side of the POWER ZOOM Switch. You can also manually zoom with the zoom ring which has a handy lever for steady turning.

BACKLIGHT BUTTON

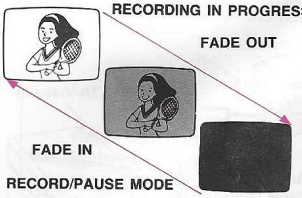
This button may be used to adjust the light level on a recording subject that is darker than the surrounding scene.
You will find this backlight adjustment useful for recording a subject in a shadowed area or in front of strong backlight.
Press the BACKLIGHT Button while recording a high contrast scene, then release it if the lighting condition changes.

RECORD REVIEW (INSTANT REPLAY)



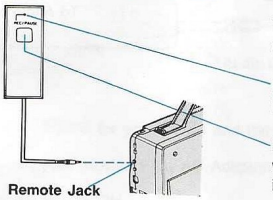
This function allows you to monitor the last few seconds of recorded material on the viewfinder screen or monitor screen by pressing the RECORD REVIEW Button while your movie is in Record/Pause mode. When playback is finished, your movie will return to Record/Pause mode automatically, and the next segment will be recorded in synchronization with the last segment recorded.

FADE IN AND FADE OUT – VIDEO ONLY; AUDIO IS NOT AFFECTED BY FADE CONTROL.



Use the FADE Button to activate the fade feature. Picture will fade out when holding down the FADE Button. When the button is released, picture will fade in. This feature eliminates sudden scene changes. For instance, before starting a recording segment, hold down the FADE Button until the picture fades out. Then press the RECORD/PAUSE Button to start the recording, releasing the FADE Button at the same time. To fade out at the end of a recording segment, hold down the FADE Button. Then when the picture has faded out, press the RECORD/PAUSE Button to pause the recording.

REMOTE CONTROL (OPTIONAL)



This control allows you to record from a remote position without disturbing your movie or the subject.

RECORDING INDICATOR —— This indicator lights when your movie is in REC mode.

REMOTE PAUSE BUTTON —— Pressing this button starts a recording when your movie is in Record/Pause mode. When you press it again, it resets your movie to Record/Pause mode.

EASY EDITING

To obtain proper continuity when taping from Stop mode, or after charging the Battery Pack:

1. Rewind the tape for a short distance (about 5 digits on the Tape Counter) by pressing the REWIND Button. Then press the PLAY Button and view the picture on the viewfinder.

2. At the location where you wish to continue recording, press the PAUSE/STILL Button. Continue recording as described in A or B.

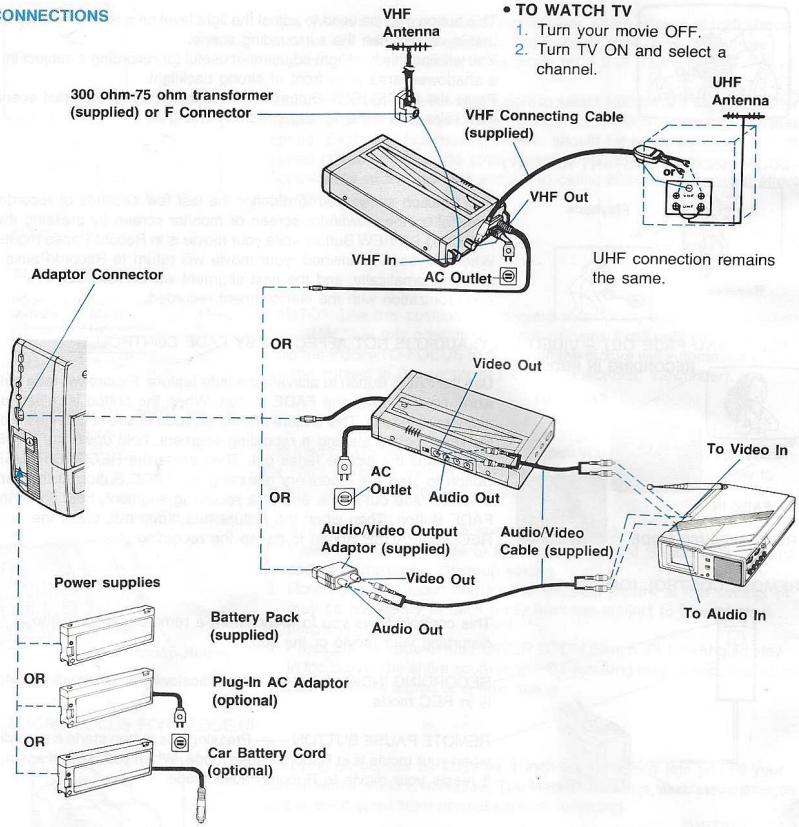
A. For CAMERA recording, slide the VCR/CAMERA Selector Door to "CAMERA"; your movie will go into Record/Pause mode. Then press the RECORD/PAUSE Button to continue recording.

B. For VCR recording, press the RECORD Button and the PLAY Button together and then press the PAUSE/STILL Button again. Your movie will begin recording.

TO MONITOR YOUR RECORDINGS

Your movie may be connected to a TV for playing back tapes or to monitor what you are recording.

CONNECTIONS



OPERATION

1. Follow the illustration above for hook-up.

2. Connect the AC Adaptor to an AC Outlet.
   - When you use the supplied Audio/Video Output Adaptor instead of the AC Adaptor, be sure to connect your movie to a Power Source (Battery Pack, Plug-In AC Adaptor or Car Battery Cord).

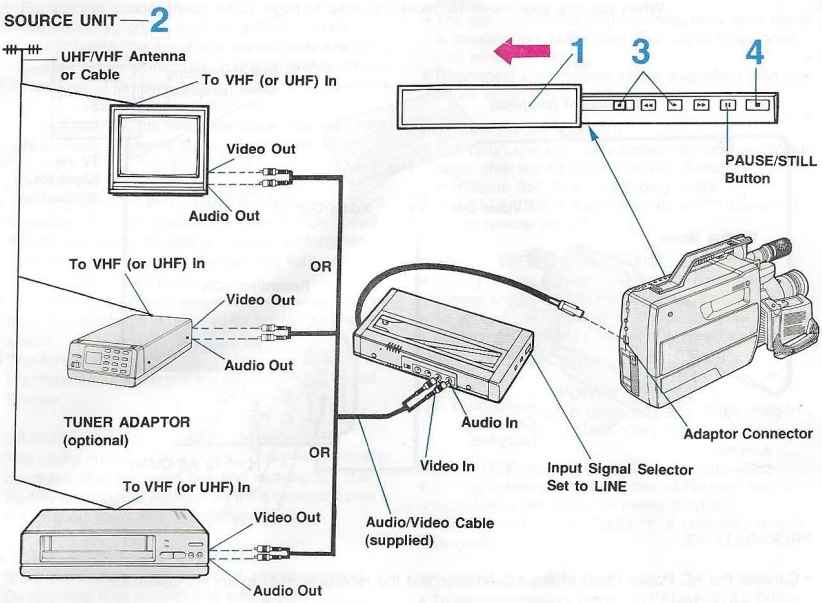
3. Turn your movie ON.

4. Turn TV ON.
   - If your TV has no VIDEO IN or AUDIO IN Terminals, select CH 3 or 4 on TV to match the CH 3/4 Switch on the AC Adaptor, when using the VHF Connecting Cable.

TO RECORD A TV PROGRAM

Your movie enables you to record a TV program through the AC Adaptor from a tuner source unit. Connect the AC Adaptor with the AUDIO/VIDEO Cable to one of these tuner sources 1) a TV which has VIDEO OUT and AUDIO OUT Terminals, 2) the optional TUNER ADAPTOR, or 3) through another VCR.

CONNECTIONS



PREPARATIONS for your movie and the AC Adaptor:

- Connect your movie to the AC Adaptor.
- Turn the Power ON.
- Insert a cassette with record tab.
- Slide the INPUT SIGNAL Selector to "LINE".

OPERATION

1 Slide the VCR/CAMERA Selector Door to "VCR".
- Your movie is in VCR mode when ON, (with AC Adaptor ON, your movie ON and the VCR/CAMERA Selector Door is in VCR position) and TV mode when turned OFF.

2 Turn the Source Unit on; select the channel to be recorded.
The selected channel will appear on TV and the EVF of your movie.

3 Press the RECORD Button and the PLAY Button together on your movie.
During recording, be sure the Source Unit power is on.

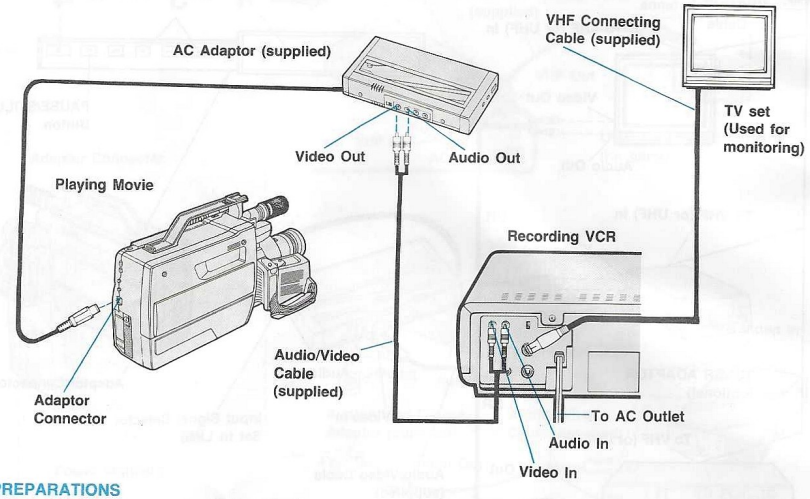
4 Press the STOP Button to stop recording.

RE-RECORDING (VIDEO/AUDIO DUBBING)

It is simple to duplicate tapes using your movie.

CAUTION: Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

CONNECTION —— SET UP AND CONNECT YOUR MOVIE FOR PLAYBACK AS ILLUSTRATED.
When you use your movie for recording, refer to page 18 for connection.



PREPARATIONS

- Connect the AC Power Plugs of the AC Adaptor and the recording VCR to an AC Outlet.
- Turn ON the playing movie and the recording VCR.
- Slide the VCR/CAMERA Selector Door to "VCR" on the playing movie.

OPERATION

1. Set up your movie for playback.
2. Set up the other VCR for recording.
3. Press the PLAY Button on the playing movie.
4. Press the RECORD Button and the PLAY Button together on the recording VCR.

- Be sure steps 3 and 4 are done simultaneously to avoid missing any of the recording.

TO MONITOR THE RE-RECORDING PROCESS ON YOUR TV

- Turn TV ON and select its VCR channel (either CH3 or CH4).
- Set the VCR/TV SELECTOR on the recording VCR to "VCR".

AUTO FOCUS

Under the following scene conditions, Manual Focus is recommended.

1. Scene with both close and distant objects in view.
2. Perspective scene.
3. Non-reflective object such as a black curtain.
4. Small objects. The Auto Focus system needs a reflecting area of a certain minimum size in order to operate. Objects more than 10 feet away should have a reflecting surface of approximately 4 inches in diameter.
5. Distant objects. The Auto Focus system may not always focus clearly on objects that are over 40 feet away.

HIGH SPEED SHUTTER

- It is recommended that you use this feature outdoors for better color reproduction. For indoor High Speed Shutter recording, additional halogen or tungsten light should be provided. Fluorescent light will degrade the picture quality.
- For effective operation, this feature requires ample light. The most light is required for the fastest shutter speed.
- The Auto Focus system may not operate properly in insufficient light when you are using the High Speed Shutter.

CHARGING THE BATTERY PACK

- The useful operation time of the Battery will gradually decrease after repeated use and recharging. The Battery is no longer serviceable if the operation time is too short even after a sufficient charge.

A WORD ABOUT THE BATTERY PACK

- Store the Battery Pack in a cool, dry, dark place.
- Do not drop it or subject it to strong jolts.
- Always charge the Battery Pack soon after full use. Discharging for a long time may make its life shorter and recharging impossible.
- Be careful not to put the Battery Pack near fire because this may short-circuit it.
- Batteries should never be disposed of in fire.
- Do not use any other chargers than specified.
- Do not use the Battery Pack for appliances other than specified.
- Do not use it below 0°C or above 40°C (32°F or 104°F).
- Do not use an insufficiently charged or worn out Battery Pack.

CAR BATTERY CORD

- Be sure to start the car engine before inserting the cigarette lighter plug of the Car Battery Cord into the cigarette lighter socket; otherwise, the cigarette lighter plug fuse may burn out when you start the engine.
- The car engine should be running while your movie is in operation. Make sure your car is in an open, well ventilated area.
- Disconnect the cigarette lighter plug when your movie is not being used.

SELF TIMER RECORDING

- The Tally Light will flash intermittently until recording starts after the RECORD/PAUSE Button is pressed to indicate Self Timer Recording mode.
- The SELF TIMER Switch has no effect if pressed during normal recording.

SPECIAL EFFECTS PLAYBACK

- During search playback, horizontal noise bars will appear and audio will not be heard.
- To protect the tape and Video Heads, your movie's operating modes will automatically revert as follows:

STILL ——→ STOP after 5 minutes.

STOP ——→ POWER OFF after 5 minutes when using a Battery Pack, Plug-In AC Adaptor or Car Battery Cord.

RE-RECORDING

- Source tapes recorded on other VCRs must be pre-recorded in SP mode for movie playback.
- For technical reasons, dubbing a tape may reduce its quality.

TO RECORD A TV PROGRAM

- To pause recording, press the PAUSE/STILL Button. Press the PAUSE/STILL Button again to return to recording within 5 minutes. After 5 minutes, Pause mode will automatically go into Stop mode.
- When you slide the VCR/CAMERA Selector Door to "VCR", a rolling white pattern may appear if the Tape Counter/Memory and Battery Display has not been cleared while in VCR mode with the AC Adaptor in "LINE" and the VIDEO IN Terminal disconnected.

CCD WARNING

When your movie is aimed at a scene which contains an excessively bright object such as the sun or other bright lighting, a vertical bar may appear in the picture. This is a characteristic of the CCD pick-up device and is normal when using your movie. Try to avoid aiming the camera directly at extremely bright objects.

NOTES ON OPERATIONS (CONTINUED)

Rough Values of Brightness

Your movie has been designed for normal scene illumination of 150 footcandles (1500 lux).

An illumination of 150 footcandles (1500 lux) is standard, but the camera may be used at FI.4, if illumination is more than 0.7 footcandles (7 lux).

The table below shows approximate values of brightness for reference.

MOVIE SETTINGS	NATURAL LIGHT CONDITIONS	KELVIN COLOR TEMPERATURE	ARTIFICIAL LIGHT SOURCE	COLOR TINT MIXTURE
(Amber Filter Range)	• Fair weather, blue sky	10,000	• Color television	Bluish
	• Slightly cloudy sky	8,000		
	• Cloudy or rainy sky	7,000		
		6,500	• Fluorescent lamp (Daylight)	
	• Sunlight in clear weather at midday	6,000	• Camera flash bulb	
"OUTDOOR"		5,500		
	• Average sunlight in clear weather	5,000	• Blue lamp for photography	
"AUTO"	• Sunlight 2 hours after sunrise and before sunset	4,500	• Fluorescent lamp (White)	Whitish
		4,000	• Normal flash bulb	
		3,500	• Fluorescent lamp (Off-white)	
			• Tungsten lamp for photography	
"INDOOR"	• Sunlight 40 min. after sunrise and before sunset	3,200	• Halogen lamp	
			• Iodine lamp	
	• Sunlight 30 min. after sunrise and before sunset	2,800		
(Blue Filter Range)			• Tungsten lamp	Yellowish
	• Sunlight 20 min. after sunrise and before sunset		• Acetylene lamp	
			• Kerosene lamp	
		2,000	• Candlelight	Reddish

LENS FILTERS

• Light filters extend your control of any lighting situation. You can fit the movie Lens Hood with any standard or "special effect" photographic lens filter that is 49 mm in diameter.

TO REMOVE THE LENS HOOD: Facing the Lens, turn the Lens Hood counterclockwise to its limit. Cover the Lens Hood with the palm of your hand, lightly press and squeeze the Lens Hood Ring. Turn the Ring counterclockwise more, to loosen and remove.

BEFORE REQUESTING SERVICE

If you have a problem with your movie, it may be a minor problem that you can correct yourself. Use the chart below in case your problem is listed, and then follow the recommendations.

Troubles	Corrections	Page
No power ...	• Make sure the Power Source is connected.	11
	• Make sure the POWER Switch is ON.	9
	• Check the DEW Indicator.	12
	• Make sure the battery is fully charged.	11
	• Make sure all necessary cables are connected correctly and firmly.	17
	• Make sure the Lens Cap is OFF.	5
Video cassette can't be inserted ...	• Make sure the Power Source is connected.	11
	• Insert the cassette with the window side facing out and the record tab facing up.	8
Video cassette can't be removed ...	• Make sure the Power Source is connected.	11
No operation starts when operation buttons are pressed ...	• Check the DEW Indicator.	12
Recording does not operate ...	• Make sure the record tab is still intact.	12
	• Check the Battery Indicator.	12
	• Check the DEW Indicator.	12
Auto Focus does not operate ...	• Make sure the FOCUS Switch is set to "AUTO".	15
	• Make sure the unit is ON, with the VCR/CAMERA SELECTOR DOOR in "CAMERA".	9
The sound from microphone can't be monitored ...	• Make sure the unit is set to REC or Record/Pause mode.	
Camera picture is too dark ...	• Make sure the High Speed Shutter Switch is OFF.	15
No playback picture, or the playback picture is noisy or contains streaks ...	• Press the TRACKING CONTROL Button.	10
During playback, the picture indicates motion or blurred action ...	• Portions of the still picture where the normal speed motion was particularly rapid may produce this effect. This is normal.	
If the top of your playback picture waves back and forth excessively ...	• Because the playback signal is not as stable as an off the air TV signal, you might experience the following symptom on your TV screen: "Top of TV screen is bent or unstable when the tape is played back. This symptom is more noticeable when a pre-recorded tape, recorded by another VCR, is played back." To solve this problem, locate the horizontal hold control on your TV. Turn it slowly to correct the wavy picture. If your TV does not have the horizontal hold control or adjusting the control does not help, some modifications have to be made to the TV set. Technically this is called "Horizontal AFC time constant change." If such a problem is noticed, please contact your local TV service center. (Some nominal service charges are required.)	

CLEANING CARE FOR VIDEO HEADS

Clogged Video Head

(a) **Video Head Cleaning:** Your movie will not normally require head cleaning; however, it is possible that the heads may become clogged when playing an old or damaged tape. If the image on your screen resembles the photograph on the left, while playing back a tape, the heads may require cleaning.

(b) **Cleaning the Heads:** It is recommended that head cleaning be performed by a qualified service technician. Please contact your nearest Panasonic Service Center. An alternate solution is to obtain a head cleaning cassette. There are many types of cleaning cassettes, so be sure to follow the cleaning instructions carefully. Excessive use of the cleaning cassette could shorten head life. Use this cassette only when a head clogging symptom occurs.

Refer servicing to qualified service personnel.

This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications set forth in Subpart J of Part 15 of the FCC Rules. If this equipment does cause interference to radio or television reception which can be determined by turning the equipment on and off, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver.

SPECIFICATIONS

Power Source:	VHS Movie: DC 12V AC Adaptor: 110/120/220/240V AC, 50/60 Hz
Power Consumption:	VHS Movie: 12V DC 11 W AC Adaptor: 40 W
Video Signal:	EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System:	4 rotary heads, helical scanning system
Audio Track:	1 track
Pick-Up System:	Sequential color difference, field reverse system
Pick-Up Device:	One integral color filter Charge Coupled Device (CCD)
Lens:	6:1 Power Zoom Lens with Macro construction Auto iris: closed with power off. Auto Focus system. F: 1.4 (9mm – 54mm) Lens filter diameter: 49mm
Viewfinder:	2/3 inch Electronic Viewfinder
Minimum Illumination Required:	7 Lux (F1.4) 0.7 footcandles
External Microphone Input Level:	–70 dB, 4.7K ohms unbalanced, M3 connector
Operating Temperature:	32°F~104°F (0°C~40°C)
Operating Humidity:	10%~75%
Weight:	VHS Movie: 5.1 lbs. AC Adaptor: 1.9 lbs.
Dimensions:	VHS Movie: 5-5/16" (W) × 8-1/2" (H) × 4-1/2" (D) 389 (W) × 216 (H) × 114 (D) mm AC Adaptor: 7-7/8" (W) × 1-7/16" (H) × 4-1/8" (D) 200 (W) × 36 (H) × 105 (D) mm

Weight and dimensions shown are approximate.
Designs and specifications are subject to change without notice.

WARRANTY

in the Continental U.S.A.	in HAWAII	in PUERTO RICO
MATSUSHITA SERVICES COMPANY DIVISION OF MATSUSHITA ELECTRIC CORP OF AMERICA (MSC)	PANASONIC HAWAII, INC. (PHI)	PANASONIC SALES COMPANY, DIVISION OF MATSUSHITA ELECTRIC OF PUERTO RICO, INC. (PSC)

Your product is designed and manufactured to ensure a minimum of maintenance. However, should your unit ever require service, a nationwide system of FACTORY SERVICE CENTERS and AUTHORIZED INDEPENDENT SERVICE CENTERS is maintained to support your product's warranty.

To locate an Authorized Service center in Your Area within the Continental U.S.A.

DIAL TOLL-FREE: 1-800-447-4700

24 Hours a Day, 7 Days a Week

Service in the Continental U.S.A.... Factory Service centers

MATSUSHITA SERVICES COMPANY
Division of Matsushita Electric Corporation of America
50 Meadowland Parkway, Secaucus, New Jersey 07094

ALABAMA
2523-5th Avenue,
South Birmingham,
AL 35233
205-252-4195

ARIZONA
2121 Priest Drive, South
Suite 107
Tempe, AZ 85282
602-968-8645

CALIFORNIA
6550 Katella Avenue
Cypress, CA 90630
714-895-7425

930 South Mt. Vernon Drive
Colton, CA 92324
714-825-3110

800 Dubuque Avenue
So. San Francisco,
CA 94080
415-871-6373

20201 Sherman Way
Suite 102
Canoga Park, CA 91306
818-709-1775

4830B Viewridge Avenue
San Diego, CA 92123
619-560-9200

COLORADO
14401 E. 33rd Place
Suite E
Aurora, CO 80011
303-371-6968

FLORIDA
16175 NW 52nd Avenue
Miami, FL 33014
305-624-6521

4115 W. Kennedy
Boulevard
Tampa, FL 33609
813-872-2686

GEORGIA
1575 Northside Dr.
Suite 325,
Atlanta, GA 30318
404-351-8978

4245 International Blvd.
Suite C
Norcross, GA 30093
404-925-6880

ILLINOIS
425 E. Algonquin Road
Arlington Heights, IL 60005
312-981-4840

MARYLAND
Sulphur Spring Business Park
1638 Sulphur Spring Road
Baltimore, MD 21227
301-242-2607

MASSACHUSETTS
101 University Avenue
Westwood, MA 02090
617-329-4280

151 Andover Street
Danvers, MA 01923
617-774-4356

MINNESOTA
7860-12th Avenue, South
Airport Business Center
Bloomington, MN 55420
612-854-8624

MISSOURI
13711 Rider Trail North
Earth City, MO 63045
314-739-5301

OHIO
494 Northland Boulevard
Cincinnati, OH 45240
513-851-4180

PENNSYLVANIA
2250 Cabot Boulevard,
West Langhorne, PA 19047
215-741-0661

4986 Library Road, Rt. 88
Hillcrest Shopping Center
Bethel Park, PA 15102
412-343-0555

TENNESSEE
925-8th Avenue, South
Nashville, TN 37203
615-244-4434

TEXAS
7420 Harwin Drive
Houston, TX 77036
713-781-1528

1825 Walnut Hill Lane
Irving, TX 75062
214-659-1770

WASHINGTON
20425-84th Ave., South
Kent, WA 98032
206-872-7922

Requests for assistance in obtaining repairs or technical information . . . contact any one of the following Service Administration offices:

EASTERN
2250 Cabot Boulevard,
West Langhorne, PA 19047
215-741-0676

MIDWEST
425 East Algonquin Road
Arlington Heights, IL 60005
312-981-4842

WESTERN
6550 Katella Avenue
Cypress, CA 90630
714-895-7438

SOUTHERN
1854 Shackleford Court,
Norcross, GA 30093
404-925-6860

Correspondence requesting product information should be sent to: Panasonic Consumer Affairs, Matsushita Services Company, Division of Matsushita Electric Corporation of America, 50 Meadowland Parkway, Secaucus, NJ 07094.

PANASONIC
HAWAII,INC.
Ewa Beach P.O.Box 774
Honolulu, Hawaii
96808-0774

PANASONIC COMPANY, DIVISION OF
MATSUSHITA ELECTRIC CORPORATION
OF AMERICA ("PANASONIC COMPANY")
1 Panasonic Way
Secaucus, New Jersey 07094

PANASONIC SALES COMPANY, DIVISION
OF MATSUSHITA ELECTRIC OF PUERTO
RICO, INC. ("PSC")
Ave 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

PHI PANASONIC COMPANY PSC
PANASONIC Video Equipment
Limited Warranty

Panasonic Company, PHI or PSC will repair this product, free of charge in the U.S.A. or Puerto Rico in the event of a defect in materials or workmanship as follows:

Parts (Except camera pick-up tube/CCD Image Sensor)
New or rebuilt parts in exchange for defective parts for one (1) year from the date of original purchase.

Camera Pick-Up Tube/CCD Image Sensor
New pick-up tube/CCD Image Sensor in exchange for defective pick-up tube/CCD Image Sensor for six (6) months from the date of original purchase.

Batteries (If included)
New rechargeable batteries in exchange for defective rechargeable batteries for ten (10) days from the date of original purchase. Non-rechargeable batteries are not warranted.

Tape (If included)
New video cassette tape in exchange for a defective video cassette tape for five (5) days from the date of original purchase.

Labor
Carry-in or mail-in service for ninety (90) days from the date of original purchase. After the labor warranty period is over, purchaser pays for all labor charges for removal and installation of parts and camera pick-up tube/CCD Image Sensor.
Carry-in or mail-in service in the continental U.S.A. can be obtained during the warranty period from a Matsushita Services Company (MSC) Factory Service center listed in the Service center Directory. Or call 800-447-4700, toll free, to locate an Authorized MSC Service center.
Carry-in or mail-in service in Puerto Rico or Hawaii can be obtained during the warranty period by calling the telephone numbers listed in the Service center Directory.
This warranty is extended only to the original purchaser.
A purchase receipt or other proof of date of original purchase will be required before warranty performance is rendered.

This warranty only covers failures due to defects in materials or workmanship which occur during normal use. It does not cover normal maintenance, including, but not limited to, video and audio head cleaning, or failures due to damage which occurs in shipment or failures which are caused by products not supplied by Panasonic Company, PHI or PSC, or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, improper antenna, inadequate signal pick-up, adjustment of consumer controls, modification or commercial use of the product or service by anyone other than a factory Service center or authorized Service center or damage that is attributable to acts of God.

LIMITS AND EXCLUSIONS
There are no express warranties except as listed above. PANASONIC COMPANY, PHI AND PSC SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY INCLUDING WITHOUT LIMITATION DAMAGE TO TAPES, RECORDS OR DISCS. DURATION OF IMPLIED WARRANTIES, IF ANY, IS LIMITED TO ONE (1) YEAR. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.
If a problem with your product develops during your warranty period, you may contact your dealer or Service center. If the problem is not handled to your satisfaction, then write to the Consumer Affairs Division at the company address indicated above.

If you ship the product

Carefully pack and send it prepaid, adequately insured and preferably in the original carton. Attach a postage-affixed letter, detailing the complaint, to the outside of the carton.

DO NOT send the product to the Executive or Regional Sales offices. They are NOT equipped to make repairs.

Service in Puerto Rico

MATSUSHITA ELECTRIC OF PUERTO RICO, INC.

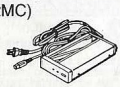
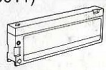
Panasonic Sales Company
Factory Service center
Calle Rosarito, Edif D
Ceramica Industrial Park
Carolina, Puerto Rico 00630
809-750-5135, 809-750-5235

Service in Hawaii

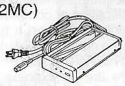
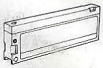
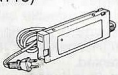
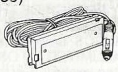
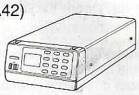
PANASONIC HAWAII, INC.
91-238 Kauhi Street, Ewa Beach
P.O. Box 774
Honolulu, Hawaii 96808-0774
808-682-1521

ACCESSORIES

Accessories packed with your movie

1 pc. AC Adaptor (PV-A22MC) 	1 pc. Battery Pack (VSBS0011) 	1 pc. Shoulder Strap (VYCS0656)	1 pc. Audio/Video Output Adaptor (VSQS0614 or VSQS0507)
1 pc. Audio/Video Cable (VJPS0216 or VJPS0337)	1 pc. VHF Connecting Cable (VSQS0217)	1 pc. 300ohm-75ohm Transformer (VSQS0496)	

Optional Accessories

1/2" Video Cassette Tape (NV-T160 NV-T120 NV-T60)	AC Adaptor (PV-A22MC) 	Battery Pack (PV-BP88) 	Plug-In AC Adaptor (PV-A118) 
Car Battery Cord (PV-C80) 	Character Generator (PV-G40)	Tuner Adaptor (PV-TA42) 	System Carrying Case (PV-H40M)

The serial number of these products may be found on the bottom of the movie and on the surface of the AC Adaptor. No others have the same serial number as yours. You should record the number and other vital information here and retain this book as a permanent record of your purchase to aid identification in case of theft.

Date of Purchase 5-29-89
Dealer Purchased From Best Buy
Dealer Address Maplewood
Dealer Phone No.
Model No. PV-400D/PV-A22MC
Serial No. C8WA19338

Panasonic®

Panasonic Company Division of Matsushita Electric Corporation of America
One Panasonic Way, Secaucus, New Jersey 07094

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